REMARKS

Claims 10-28 are pending in this application. In the Office Action dated June 27, 2003, the Examiner rejected claims 10-22 under 35 U.S.C. § 103(a) as being unpatentable over Tiedemann (USPN '730) in view of Proctor (USPN '832) further in view of Walton, Jr. (USPN '723), and the Examiner rejected claims 23-28 under

35 U.S.C. § 103(a) as being unpatentable over Tiedemann (USPN '730) in view of Proctor (USPN '832) further in view of Walton, Jr. (USPN '723), and further in view of additional previously noted prior art. It is submitted that Applicants have traversed the rejections with the argument below. Reconsideration and allowance of the application are respectfully requested.

Rejection of Claims 10-22

Claims 10-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the Tiedemann '730 patent in view of Proctor '832 further in view of Walton, Jr. '723. The Examiner asserted that the Tiedemann '730 patent shows a multi-carrier forward link with frequency bins, each of which are associated with a reverse link frequency bin. The Examiner attempted to combine the '730 patent with the Proctor '832 patent, which was cited for describing a system with multiple forward link traffic channels spread over multiple 1.2288 MHz frequency bands,[1] and also attempted to combine with the Walton '723 patent, which was cited for describing a system that allocates bandwidth of the forward link differently from bandwidth of the reverse link, "to accommodate different applications which contain different requirements such as asymmetric traffic requirements." Applicants respectfully submit that the proposed combination does not render the claims obvious.

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a), a cited combination of references must teach or suggest all of the claim limitations of a rejected claim (M.P.E.P. § 2142). The proposed combination of Tiedemann '730 and Proctor '832 with Walton '723 does not provide the limitations of independent claims 10, 17, and 20.

[1] The Examiner asserted that those skilled in the art would know to vary the frequency bands and would thereby render obvious the claimed feature of 1.25 MHz bands.

Independent claims 10 and 17 relate to a method of spectrum management in a wireless communication system, and independent claim 20 is an apparatus claim corresponding to method claims 10 and 17. As exemplified by claim 10, the claimed method and apparatus teaches bandwidth allocation of the forward and reverse link transmissions by "designating a multi-carrier forward link having a plurality of forward link frequency bins" and "designating a reverse link having at least one reverse link frequency bin", wherein "the forward link frequency bins and the reverse link frequency bin are designated such that bandwidth of the forward link can be allocated differently from bandwidth of the reverse link." Thus, a multi-carrier forward link is configured into a plurality of forward link frequency bins so that the designations of the forward link and the reverse link bins enable the bandwidth of the forward link to be allocated differently from the bandwidth of the reverse link.

The specification of the present application notes that "in the currently proposed Third Generation Systems, the bandwidth allocated to reverse link transmissions is the same as the bandwidth allocated for forward link transmission" (See Background of Specification, page 6, lines 6-8). The present application proposes a multi-carrier forward link system wherein the bandwidth of the forward link can be allocated differently from the bandwidth of the reverse link. This approach also provides an added benefit of enabling the user of a particular technology, such as "cdma2000 1X", to more easily transition to a newer version of the technology, such as cdma2000 3X.

None of the cited patents, however, describes or suggests a CDMA system having a multi-carrier forward link with allocation of frequency bins in the forward link being different from bandwidth allocation in the reverse link. As noted below, the cited references teach away from providing this feature.

The Tiedemann '730 patent relates to a power control process that "enables a base station communicating over a forward packet channel to a mobile radio to control the power of the mobile radio transmitting over a reverse packet channel to the base station." (see Abstract). The forward link is based on a standard CDMA channel including "a pilot channel, a synchronization channel, one or more paging channels, one or more forward packet channels and forward traffic

channels.... [A] forward packet channel is a spread spectrum channel similar in operation to the forward traffic channel as disclosed in IS-95." (See column 5, line 17 to line 24).

The Proctor '832 patent relates to assigning subchannels on the reverse link for better load balancing (Abstract). The Walton '723 patent describes a power control methodology for a CDMA system in which power control data is used for adjusting signal transmission for better load balance, wherein time slot duration can be changed (Walton at col. 2, lines 53-63; column 3, lines 57-67).

Thus, none of the cited references relates to the claimed CDMA system having a multi-carrier forward link with allocation of forward link frequency bins and a reverse link frequency bin such that bandwidth of the forward link can be allocated differently from bandwidth of the reverse link. No combination of the patents could provide the claimed features.

In fact, there is a teaching away from making the proposed combination and providing multiple carriers for the forward link. The Walton '723 patent indicates that it

"is generally understood that such 1.25 MHz radio frequency carrier provides, at best, a total equivalent of about 500 to 600 kbps maximum data rate transmission within acceptable bit error rate limitations. In contrast to this, the present invention subdivides the available approximately 500 to 600 kbps data rate into relatively large number of subchannels. In the illustrated example, the bandwidth is divided into sixty-four (64) subchannles 300, each providing an 8 kbps data rate. A given subchannel 300 is physically implemented by encoding a transmission with one of a number of different assignable pseudorandom codes. For example, the 64 subchannels 300 may be defined within a single CDMA RF carrier by using a different orthogonal code for each defined subchannel 300 for example, for the forward link."

(see Walton '723 patent at col. 7, lines 1-16; emphasis added). Walton's reference to a "single CDMA RF carrier" teaches away from the claimed "multi-carrier forward link." Moreover, Walton states that "It is desirable to use a single radio carrier signal on the reverse link to the extent possible to conserve power as well as conserve the receiver resources which must be made available at the base station." (Walton at col. 7, lines 29-33).

Claims 10, 17, and 22, each recites a multi-carrier forward link wherein forward link frequency bins and a reverse link frequency bin are designated such that bandwidth of the forward link can be allocated differently from bandwidth of the reverse link, and therefore these claims are patentably distinguishable from the proposed combination.

Claims 11-16 and 22 depend from claim 10, claims 18-19 depend from claim 17, and claim 21 depends from claim 20, and are likewise patentable.

Rejection of Claims 23-28

Claims 23-28 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the Tiedemann '730 patent in view of Proctor '832 further in view of Walton, Jr. '723 as applied to claim 10, and further in view of additional previously noted prior art. Applicants respectfully submit that the proposed combination does not render the claims obvious, as described above with respect to independent claims 10, 17, and 21. The previously noted prior art does not provide the necessary functionality and does not eliminate the teaching away noted above for the alleged combination. Thus, because claims 23-28 depend from claim 10, these claims are patentably distinguishable.

Accordingly, Applicants submit that the Examiner has not presented a prima facie case of obviousness. Therefore, Applicants respectfully submit that all the pending claims 10-28 are patentable over the cited references, and meet the requirements of 35 U.S.C. § 103(a).

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicants submit that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application is earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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By: Sandra L. Godsey

Sandra L. Godsey, Reg. No. 42,589
(858) 651-4517

QUALCOMM Incorporated
5775 Morehouse Drive
San Diego, California 92121
Telephone: (858) 651-4125
Facsimile: (858) 658-2502